

REMARKS

Applicant is in receipt of the Office Action mailed March 8, 2004. Claims 13 and 32 have been amended. Claims 1-38 remain pending in the case. Reconsideration of the present case is earnestly requested in light of the following remarks.

Section 112 Rejections

Claims 13, 14, 32, and 33 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention, due to an antecedent basis error. Claims 13 and 32 have been amended to correct the antecedent basis error. Removal of the 112 rejection of claims 13, 14, 32, and 33 is respectfully requested.

Section 103 Rejections

Claims 1-3, 12, 23, 24, 31, 34, and 35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Davies et al. "Low-Discrepancy Sequences for Volume Properties in Solid Modeling." CSG'98. 1998 ("Davies") in view of Ninomiya et al. (U.S. Patent 5,790,442, "Ninomiya"). Applicant respectfully traverses the rejection.

Claim 1 recites:

1. A method for generating a curve in a region, the method comprising:
 - generating an unbounded Low Discrepancy Point;
 - applying one or more boundary conditions to the unbounded Low Discrepancy Point to generate a bounded Low Discrepancy Point, wherein the bounded Low Discrepancy Point is located within the region;
 - repeating said generating and said applying one or more boundary conditions one or more times, thereby generating a Low Discrepancy Sequence in the region;
 - storing the Low Discrepancy Sequence; and
 - generating output comprising the Low Discrepancy Sequence, wherein the Low Discrepancy Sequence defines the curve in the region.

As the Examiner is certainly aware, to establish a prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP 2143.03. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion or incentive to do so. In re Bond, 910 F. 2d 81, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990).

As held by the U.S. Court of Appeals for the Federal Circuit in Ecolochem Inc. v. Southern California Edison Co., an obviousness claim that lacks evidence of a suggestion or motivation for one of skill in the art to combine prior art references to produce the claimed invention is defective as hindsight analysis.

In addition, the showing of a suggestion, teaching, or motivation to combine prior teachings “must be clear and particular Broad conclusory statements regarding the teaching of multiple references, standing alone, are not ‘evidence’.” *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). The art must fairly teach or suggest to one to make the specific combination as claimed. That one achieves an improved result by making such a combination is no more than hindsight without an initial suggestion to make the combination.

Applicant respectfully submits that neither Davies nor Ninomiya provides a motivation to combine, and that even if the references were properly combinable, the resulting combination would not teach Applicant’s invention as represented in claim 1.

The Office Action asserts that Davies teaches all of the limitations of claim 1 except for storing the sequence, which is disclosed in Ninomiya. More specifically, the Office Action has equated Davies’ determining whether points fall within the rectangular box with the limitation *applying one or more boundary conditions to the unbounded Low Discrepancy Point to generate a bounded Low Discrepancy Point, wherein the bounded Low Discrepancy Point is located within the region*, of claim 1. Applicant respectfully submits that this asserted equivalence is invalid. Applicant notes that applying the one or more boundary conditions to an unbounded low discrepancy point generates a bounded low discrepancy point. In other words, if the unbounded low discrepancy point is

determined to be outside the region, then the point is moved into or re-located in the region, i.e., the point is *bounded*, hence the term “bounded low discrepancy point”, in claim 1. In contrast, Davies discloses determining if a low discrepancy point is within the boundaries of a defined volume, but specifically does not apply boundary conditions to generate a “bounded low discrepancy point”. In other words, if Davies determines that a low discrepancy point is outside the specified volume or region, the point remains in place, and no bounded point is produced, thus Davies does *not* teach generating a bounded low discrepancy point based on an unbounded low discrepancy point.

Ninomiya discloses storing low discrepancy sequence components and expansions, but does not teach or suggest *applying one or more boundary conditions to the unbounded Low Discrepancy Point to generate a bounded Low Discrepancy Point, wherein the bounded Low Discrepancy Point is located within the region*. Thus, Ninomiya does not overcome the deficiencies of Davies.

Thus, Applicant respectfully submits that neither Davies nor Ninomiya, either singly or in combination, teaches or suggests all the features and limitations of claim 1, and so Applicant submits that claim 1 and those claims dependent thereon are patentably distinct and unobvious over Davies and Ninomiya, and are thus allowable for at least the reasons presented above. Claims 20, 22, 23, and 34, includes similar limitations as claim 1, and so the arguments above apply with equal force. Thus, Applicant respectfully submits that claims 20, 22, 23, and 34, and claims respectively dependent thereon, are similarly patentably distinct and unobvious over Davies and Ninomiya, and are thus allowable for at least the reasons presented above. Removal of the 103 rejection of claims 1-3, 12, 23, 24, 31, 34, and 35 is respectfully requested.

Regarding claim 2, the Office Action further asserts an equivalence between Davies’ object boundaries and Applicant’s Low Discrepancy Curve. Applicant submits that Applicant’s Low Discrepancy Curve comprises the generated bounded low discrepancy sequence of points, and that this sequence is distinct from Davies’ object boundaries in that Davies’ object boundaries specify a geometric surface used to test for inclusion of low discrepancy points within the volume defined by the object boundaries,

and are *not* the low discrepancy sequence itself. More specifically, Davies' object boundaries are not a sequence of bounded low discrepancy points as disclosed and claimed in the present application.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-56900/JCH.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☒ Notice of Change of Address
- ☐ Check in the amount of \$ for fees ().
- ☐ Other:

Respectfully submitted,



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